



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/900,272

07/06/2001

Tao Chen

PA010368

7587

23696

7590

03/30/2005

Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA 92121-1714

EXAMINER

MARCELO, MELVIN C

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 03/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

(A)

Office Action Summary	Application No. 09/900,272	Applicant(s) CHEN, TAO	
	Examiner Melvin Marcelo	Art Unit 2662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1/02 & 9/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: in the specification, page 9, line 8, the terms "forward link" and "reverse link" appear to have been interchanged inadvertently.

Appropriate correction is required.

Claim Objections

2. Claims 8, 9, 19 and 21 are objected to because of the following informalities:
Claim 8, line 2, "form" should be --from--.

Claims 8 and 9, line 2, "the first link" should be --a first link-- in order to clearly distinguish this link from the link in claim 7.

Claims 19 and 21, line 5, "the first link" should be --a first link--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-6, 10-17, 21 and 22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Art Unit: 2662

It is not clear where it is described in the Detailed Description that data is transmitted on the same link as scheduling information. In particular, it is not clear where it is described that "data" is transmitted on a first link (the first link corresponding to the forward link -- base station to subscriber link). Further, it is not clear where it is described that scheduling information and the transmitted data are transmitted together (claim 2). Also, it is not clear where it is described that "authorization for the pre-scheduled transmission of data" is transmitted (claims 10,11,21 and 22).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-6 and 12-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Chen et al. (US 5,923,650 A).

The claimed subject matter corresponds to applicant's earlier patent, which is a statutory bar. With respect to the claims below, references to the prior art appear in parenthesis.

1. A method for scheduling transmission on a link in a communication system, comprising:

transmitting data on a first link in the communication system (Chen'650, Figure 10, box 316, wherein the remote station receives a data frame which by definition includes data on the forward link); and

transmitting scheduling information on the first link in the communication system
(The same data frame in box 316 includes scheduling information, Figure 7, box 204).

2. The method as claimed in claim 1, wherein said transmitting scheduling information on the first link in the communication system comprises:

transmitting scheduling information together with said transmitted data on the first link in the communication system (Figure 10, box 316, the received data frame includes the scheduling information).

3. A method for scheduling transmission on a link in a communication system, comprising:

transmitting data on a first link in the communication system (Chen'650, Figure 10, box 316, wherein the remote station receives a data frame on the forward link); and

scheduling transmission on the link in the communication system in accordance with a reception of said transmitted data on the first link (Box 318, the first high rate data frame is transmitted as scheduled by box 308 on the reverse link).

4. The method as claimed in claim 3, wherein said scheduling transmission on the link in the communication system in accordance with a reception of said transmitted data on the first link comprises:

scheduling transmission on the link in the communication system at a first time instance delayed by a pre-determined amount from a time instance of the reception of

said transmitted data on the first link (Figure 10, first time instance is K+7 delayed from the reception at K+6).

5. The method as claimed in claim 3 further comprising:

ascertaining the link capacity at a base station expecting said scheduled transmission on the link in the communication system in accordance with the reception of said transmitted data on the first link (Transmission Rate Reassignment, beginning in column 15, line 13); and

transmitting, on the first link in the communication system, a change to at least one parameter of said scheduled transmission when said ascertained link capacity does not support said scheduled transmission (Reassigned rates, column 15, lines 37-53).

6. The method as claimed in claim 5, wherein said transmitting, on the first link in the communication system, a change to at least one parameter of said scheduled transmission when said ascertained link capacity does not support said scheduled transmission comprises:

transmitting, on the first link in the communication system, a change to at least one parameter of said scheduled transmission together with said transmitted data (Figure 10, box 316, the received data frame includes the scheduling information).

12. An apparatus for scheduling transmission on a link in a communication system (Chen'650, Figure 2), comprising:

a transmitter (Box 4);

a processor (Channel Scheduler 12 in Figure 3 includes a controller 92, column 9, lines 17-24); and

a storage medium coupled to the processor (Channel Scheduler 12 includes memory devices, column 9, lines 25-41) and containing a set of instructions executable by the processor to cause the transmitter to transmit data on a first link in the communication system, and cause the transmitter to transmit scheduling information on the first link in the communication system (Figure 10, box 308 causes the transmission of the data frame on the forward link in box 316).

13. The apparatus as claimed in claim 12, wherein the set of instructions executable by the processor to cause the transmitter to transmit data on a first link in the communication system comprises a set of instructions executable by the processor to cause the transmitter to transmit the scheduling information together with the transmitted data on the first link in the communication system (Data frame transmitted in box 314 includes scheduling information as shown box 316 in Figure 10 and box 204 in Figure 7).

14. An apparatus for scheduling transmission on a link in a communication system, comprising:

a transmitter configured to transmit data on a first link in the communication system (Box 4);

a processor (Channel Scheduler 12 in Figure 3 includes a controller 92, column 9, lines 17-24); and

a storage medium coupled to the processor (Channel Scheduler 12 includes memory devices, column 9, lines 25-41) and containing a set of instructions executable by the processor to schedule transmission on the link in the communication

system in accordance with a reception of the transmitted data on a first link (Data frame transmitted in box 314 includes scheduling information as shown box 316 in Figure 10 and box 204 in Figure 7).

15. The apparatus as claimed in claim 14, wherein the set of instructions executable by the processor to schedule transmission on the link in the communication system in accordance with a reception of the transmitted data on a first link comprises a set of instructions executable by the processor to schedule transmission on the link in the communication system at a time instance delayed by a pre-determined amount from a time instance of the reception of the transmitted data on the first link (Figure 10, first time instance is K+7 delayed from the reception at K+6).

16. The apparatus as claimed in claim 14 further comprising:
a second processor (Controller 92, column 9, lines 20-24); and
a second storage medium coupled to the second processor (Channel Scheduler 12 includes memory devices, column 9, lines 25-41) and containing a set of instructions executable by the second processor to ascertain the link capacity at a base station expecting the scheduled transmission on the link in the communication system in accordance with the reception of the transmitted data on the first link (Transmission Rate Reassignment, beginning in column 15, line 13); and cause the transmitter to transmit, on the first link in the communication system, a change to at least one parameter of the scheduled transmission when the ascertained link capacity does not support the scheduled transmission (Reassigned rates, column 15, lines 37-53).

17. The apparatus as claimed in claim 16, wherein the set of instructions executable by the second processor to cause the transmitter to transmit, on the first link in the communication system, a change to at least one parameter of the scheduled transmission when the ascertained link capacity does not support the scheduled transmission comprises a set of instructions to cause the transmitter to transmit, on the first link in the communication system, a change to at least one parameter of the scheduled transmission together with the transmitted data (Figure 10, box 316, the received data frame includes the scheduling information).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 7-11 and 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. in view of Criss et al. (US 2001/0029178 A1).

Chen'650 does not teach the pre-scheduled transmission of data on the link. However, Criss teaches the pre-scheduling of transmission data such as software upgrade for a mobile terminal in order to avoid transmission during normally busy times. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide pre-scheduled transmission of data in Chen'650 for the reason that certain data such as software upgrade should be transmitted during times that are not busy as taught by Criss.

7. *A method for scheduling transmission on a link in a communication system, comprising:*

ascertaining the link capacity at a base station expecting a pre-scheduled transmission of data on the link (Obvious to pre-schedule certain data as taught by Criss, wherein Chen'650 teaches to ascertain link capacity based on all transmissions -- scheduled and unscheduled, column 15, lines 37-45); and proceeding in accordance with said ascertained link capacity (Transmission Rate Reassignment, beginning in column 15 line 13).

8. *The method as claimed in claim 7, wherein said proceeding comprises: abstaining from transmitting scheduling information on the first link when said ascertained link capacity supports the pre-scheduled transmission of data (Obvious to not transmit scheduling information since a pre-scheduled transmission, by nature, does not require additional scheduling if there are no problems in the system) .*

9. *The method as claimed in claim 8 further comprising: transmitting re-scheduling information on the first link when said ascertained link capacity does not support the pre-scheduled transmission of data (Obvious to transmit the transmission rate reassignment scheduling information when a pre-scheduled transmission cannot be accommodated).*

10. *The method as claimed in claim 7, wherein said proceeding comprises: transmitting, on the first link, authorization for the pre-scheduled transmission of data when said ascertained link capacity supports the prescheduled transmission of*

data (Obvious to provide authorization information since pre-scheduled transmission data such as software upgrades may be limited to authorized users).

11. The method as claimed in claim 10 further comprising:

transmitting re-scheduling information on the first link when said ascertained link capacity does not support the pre-scheduled transmission of data (Obvious to transmit the transmission rate reassignment scheduling information when a pre-scheduled transmission cannot be accommodated).

18. An apparatus for scheduling transmission on a link in a communication system, comprising:

a processor (Chen'650, Figure 3, Scheduler 12 includes controller 92);

a storage medium coupled to the processor (Channel Scheduler 12 includes memory devices, column 9, lines 25-41) and containing a set of instructions executable by the processor to ascertain the link capacity at a base station expecting transmission of a pre-scheduled data on the link, and proceed in accordance with the ascertained link capacity (Obvious to pre-schedule certain data as taught by Criss, wherein Chen'650 teaches to ascertain link capacity based on all transmissions -- scheduled and unscheduled, column 15, lines 37-45).

19. The apparatus as claimed in claim 18 further comprising a transmitter (Chen'650, box 4 in Figure 2), wherein the set of instructions executable by the processor to proceed in accordance with the ascertained link capacity comprises a set of instructions executable by the processor to abstain from transmitting scheduling

information on the first link when the ascertained link capacity supports the pre-scheduled transmission of data (Obvious to not transmit scheduling information since a pre-scheduled transmission, by nature, does not require additional scheduling if there are no problems in the system).

20. The apparatus as claimed in claim 19, wherein the set of instructions further comprises a set of instructions executable by the processor to cause the transmitter to transmit re-scheduling information on the first link when the ascertained link capacity does not support the pre-scheduled transmission of data (Obvious to transmit the transmission rate reassignment scheduling information when a pre-scheduled transmission cannot be accommodated).

21. The apparatus as claimed in claim 18 further comprising a transmitter, wherein the set of instructions executable by the processor to proceed in accordance with the ascertained link capacity comprises a set of instructions executable by the processor to cause the transmitter to transmit authorization for the pre-scheduled transmission of data on the first link when the ascertained link capacity supports pre-scheduled transmission of data (Obvious to provide authorization information since pre-scheduled transmission data such as software upgrades may be limited to authorized users).

22. The apparatus as claimed in claim 21, wherein the set of instructions further comprises a set of instructions executable by the processor to cause the transmitter to transmit re-scheduling information on the first link when the ascertained link capacity does not support the pre-scheduled transmission of data (Obvious to transmit the

transmission rate reassignment scheduling information when a pre-scheduled transmission cannot be accommodated).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melvin Marcelo whose telephone number is 571-272-3125. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on 571-272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melvin Marcelo
Primary Examiner
Art Unit 2662

March 20, 2005